THE FARMER & GARDENER;

AND LIVE-STOCK BREEDER & MANAGER.

CONDUCTED BY I. IRVINE HITCHCOCK, AND ISSUED EVERY TUESDAY FROM THE AMERICAN FARMER ESTABLISHMENT, AT $5 PER ANNUM, IN ADVANCE.

No. 13. BALTIMORE, JULY 29, 1834. Vol. I.

☞This publication is the *successor* of the late

AMERICAN FARMER,

(which is discontinued,) and is published at the same office, at five dollars per year, payable in advance.

☞When this is done, 50 cents worth of any kind of seeds on hand will be delivered or sent to the order of the subscriber with his receipt.

American Farmer Establishment.

BALTIMORE: TUESDAY, JULY 29, 1834.

A RAM, IMPORTED BY J. BARNEY, ESQ.

We have had the pleasure of receiving another letter from our friend, Mr. J. Barney, of Philadelphia, who has just been increasing his flock by the purchase of one of the finest young Rams we have heard of lately—He says: 'I have just been to N. York to look at two imported sheep, year old Rams—I have purchased one of them for $150, cash; when all expenses are included, he will cost $200 by the time he arrives at the Girard Farm. He is a great sheep; he sheared 12¾ lbs. of wool washed—he is of the Bakewell, crossed with the Yorkshire breed. The other was sold for $160, with two of my ewes at $50 each, and taken to Scioto Valley, Ohio.'

Mr. B. observes that wool 12 to 13 inches long and a fleece of 12¾ pounds on a year old sheep is not often to be seen. We perfectly agree with him; such an animal is not often to be seen, and we are very much gratified that this noble animal has fallen into such good hands; we may be well assured that the most will be made of him.

CAPT. MATTHEWS' POTATOES.

Captain Wm. P. Matthews, of Chestertown, E. S. presented us a few days ago with a specimen of his spring crop of potatoes, which appears to be of a new variety. They are of a pure white, of good size, and come very early—they likewise appear to be very prolific; they were planted in March—the 25th of May they were fit for use, and some were dug the 15th of June; those remaining in the ground, were found to be sprouting—they were taken out and a second crop was planted on the 25th of June, and also on the 10th of July.

They are very beautiful potatoes to look at, and there is no doubt that they will be found a valuable variety. The Captain is also engaged in raising some from the seed of the potatoe ball, and we may expect some new varieties will be produced. If experiments of this kind were oftener put in practice, much improvement might be expected to result from them.

It will be seen under the Horticultural Report, that he has been no less successful in raising Beets—some of the largest of the kind we ever saw, were presented by him to that society for exhibition.

SKINLESS OATS.—At a late meeting of the Warwickshire Agricultural Society, a specimen of the *Avanacia Tarina*, or Skinless Oat, was produced by the Revd. Mr. Knott which had been plucked out of a piece of ground belonging to him at Wormlighton.

According to the account furnished by Mr. Knott, it was grown in the season of 1830 for the first time in Great Britain by Thomas Devenzy, Esq. of Clebernon Hall, and the seed came from a remote district in China.

The advantages which this extraordinary and valuable grain possesses over all other kinds of Oats are, that when thrashed from the sheaf it is free from rind or husk, and fit for immediate use for culinary purposes, and every other use which oatmeal is consumed for, and the flavor is delicious, containing much more farinaceous matter. One peck contains more nutritious food for a horse than three pecks of common oats; the produce is most astonishing, the average being 26 barrels of 14 stone to the Irish acre; it was sown 4th May, 1830, and reaped early in August; it is remarkably hardy and well adapted for the climate.—The above is an extract from the Cambrian newspaper.

☞See Advertisement.

MARYLAND HORTICULTURAL SOCIETY.

A stated meeting of the council was held on Saturday Evening, 26th inst.

A parcel of seed of the Mexican coffee was presented by the Rev. Mr. Knight of St. Mary's College.

Capt. Wm. Matthews of Chestertown presented two very fine turnip rooted beets, weighing 5 lb. 9 oz. and measuring 24 inches in circumference; and two potatoes of a new and valuable variety, which produce two crops the same season.

Mr. Stronick, gardener to John B. Morris, esq. exhibited a peck of very fine Mercer potatoes.

The gardener at Rose Hill, seat of James Gibson, esq. presented a very large and fine long green Cucumber.

Mr. Waters presented fine specimens of the red magnum bonum plum.

Mr. S. Feast presented branches of the Siberian crab apple, *with ripe fruit and flowers on the same spur*. Mr. Feast thinks that this singular circumstance is attributable to the *locust*, as every branch on the tree that is cut by that insect has produced flowers at this uncommon season.

Mr. Waters exhibited specimens of canna flaccida, volkameria japonica, seedling rudbeckia and chinese rose.

Mr. G. B. Smith presented specimens of the Claudius Cæsar, and a fine double seedling Dahlia of a rich royal purple.

Mr. S. Feast presented ruella formosa, bouvardia coccinia, osher plant, and yellow nankeen cotton, the seed of which was sent home by Mendes I. Cohen, esq.; Dahlias, yellow tea rose, &c.

Mr. Joseph King, jr. exhibited a specimen of jasminum lucidum, gardenia capensis, verbena melindres, plumbago capensis, cobea scandens, &c.

PACKING GRAPES.—The following is the mode of packing grapes which I adopted with success for many years, having to send them nearly three hundred miles. A box having been prepared, a bed of clean wool, well separated, was laid in the bottom, on which a layer of grapes was placed; each bunch being separately enveloped in the tissue paper. A portion of wool was then introduced between each bunch, and all the interstices filled up withit, and then a layer of wool put over the top. For a second layer, a small ledge of wood was fixed at each end in the box at the level wanted, and a thin board made to fit it easily, so as to fall down upon the ledges; in the board there were two finger-holes made with an inch centre-bit; and the board, being fixed down upon the ledges, with a couple of small brads at each end, driven in half-way, a second layer of grapes was laid in as above, and so on for a third layer, if wanted. I think Mr. Wilson will find the above method of fixing in the separation board an improvement upon his mode; at least I preferred it, after trying both ways. The finger-holes I also found very convenient for getting out the board, after drawing the small brads with a pair of pincers. In cases where wool is an object, or may be thought too expensive, moss well dried, cleaned, and threshed, will be found a tolerably good substitute; but the superior elasticity of the wool renders it preferable.—*T. Rutger. Shortgrove, Feb.* 1834.

SCARCITY OF WIVES.—It is said that in South Wales an old maid is a much rarer animal than a black swan. It is asserted that the fair emigrants from this country receive offers of marriage through speaking trumpets, before they land from the ship. In this country, however, it requires something louder than *speaking trumpets* to make them keep their distance!—*N. Y. Star.*

THE FARMER.

Calcareous Manure.

A gentleman from Kent county called at our office a few days ago, and gave us some account of his management on his farm, who, we think, has gone to work in the right way.

In the first place, he has made a purchase of a plantation on the Eastern Shore of Maryland, on navigable water, instead of going to the western country (perhaps) a thousand miles from a market—this strikes us as a judicious step in the commencement, for we believe there is no part of the union where lands are offered for sale more below their intrinsic value, taking all circumstances into consideration, than on the Eastern Shore of Maryland.

The plantation under consideration, contains large masses of oyster shells, lying on the banks of the rivers and creeks which, in all probability, once formed the beds of the several streams.

The owner of this plantation has made a kiln, and is burning his shells into lime, which he sells to the farmers, delivered on the navigable streams to a certain distance at eight cents per bushel, or sells the lime at the kiln for five cents per bushel. He informed us, he has many thousand bushels bespoke, and there is no doubt he will have shells enough in this way to pay all expenses of burning, and to return to him the purchase money for his land, besides leaving a sufficient quantity to enrich his own land, provided a proper rotation of crops be instituted, for ages to come. When we consider the natural advantages of the location of this plantation, having such facility in approaching the three great markets of Baltimore, Philadelphia and New York; and that the land is free of charge!—for nothing!! we think it may be safely said, that lands cannot be purchased on better terms in the union.

The attention of Farmers has been but lately directed to this source of calcareous manure; though, it has been presented to their senses in more ways than one, for ages past.

These shells undergo a partial decomposition, and when placed in the soil are in the same proportion rendered useful as a manure; but when suffered to remain in large masses, they are in an equal ratio deleterious to animal life, and operative in rendering their vicinity unhealthy.

These beds of undecomposed shells have by some been called marl; but they have no other claim to this title, than, as they have become decomposed and entered into a new combination with clay, sand or other substances. They are altogether distinct from that article, of which we have sometimes spoken as the marl of New Jersey, and require a different management, to reap the full benefit which they are capable of imparting to the land.

The oyster shell, when divested of its animal substance, is a pure carbonate of lime, containing 41.4 parts of carbonic acid, and 55 of calcareous earth; and in this state, they are as unchangable, without the application of fire or some chemical test, as quartz or mica. Unless there exist in the earth, some acid for which lime has a stronger affinity, than it has for carbonic acid, the shells will remain unchanged, and will exert no other effect as a manure, than would be done by sand or broken bricks—without chemical action they would merely operate mechanically in separating the particles of a too adhesive soil.

When calcined, they yield a quick lime perfectly free from any metallic or fossil substance; and being less perviable to water, they make a superior mortar for plaistering walls, and are in high estimation for that purpose with the Dutch, who make their excellent cement with burnt shells.

Some have objected to burning the shells for manure, under the impression that they contained an animal matter, which would be destroyed by the action of fire; but we cannot conceive that they still contain any matter of that kind after lying for centuries exposed to the action of the atmosphere; and even in fresh shells, the animal matter which they may contain, would be far more than compensated for by the chemical action of the lime which would be gained by calcination.

If the vast beds of shells, which abound on the Chesapeake and its tributary streams, had been combined with sulphur, or had a free sulphuric acid been present in the soil to combine with the shells, and the carbonic acid had been, thereby, in part dispelled, and the shells disintegrated, other combinations would have been formed, which would have effloresed on exposure to the atmosphere, and in that state the mass would have constituted what is called marl.

Pure sulphate of lime, or gypsum, contains lime 32 parts, sulphuric acid 46, water 22—it is sometimes contaminated by carbonate of lime, alumine, selex, and oxoyde of iron, when it obtains the name of Plaster of Paris.

It will be observed that the difference between oyster shells and marble is this, the shell is in the form of an animal secretion, and the marble, supposed to be of the same origin, but has been in a state of solution, and now in a concrete or granular form. Gypsum, or Plaster of Paris, is composed of the same earthy basis, but combined with different acid. It contains the sulphuric, and marble the carbonic acid.

On the Management of Farms.

We publish below a letter from John C. Brickenstein, Esq. who is soliciting from us answers to several questions of much interest to agriculturists in general, as well as to ourselves. It gratifies us to see that our labors are not all lost.—The result which our correspondent describes as being produced upon himself by reading our pages, we hope may be extensively felt, viz. the keeping up an excitement concerning agriculture; saving his bacon in superior order, and curing his hay with less expense, &c. &c. These are valuable considerations for his time and money, and we hope many others may have like inducements for continuing the perusal of our pages. But there is another consequence flowing from his excitement, which, to us, is not less interesting than those he has mentioned, it has induced him to diffuse the result of his excitement upon paper, and to give us a letter, replete with good feeling and close observation. We could wish this excitement might prove as contagious as *Influenza;* or, if it should not prove an epidemic, that it might, at least, prove a wide spreading endemic, throughout our land. We fully reciprocate the good feeling expressed by Mr. Brickenstein for the south, and regret our inability to give him all the information he desires; but we hope some of our talented southern gentlemen will come to our aid, and take up the correspondence, to supply our deficiency. We doubt not it would be a source of mutual gratification and instruction to the farmers of the north and the south, to have the minutia of their course of agriculture, and modes of managing farms compared; and we freely offer our pages as the medium through which such a mutual interchange of sentiments may be kept up.—Our subscribers must undoubtedly understand that the value of our pages must depend in a principal degree upon their own communications. It is not possible for us to give detailed statements of the productions and management of farms, when we have never been within a thousand miles of them. Were we to presume upon such a course, our recommendations would indeed come under the high accusation of *book farming*, or as it is sometimes called, *silk-stocking farming*. No, no, the part we have to perform is a very humble one indeed—we *ought to be* merely the attendants on the press, to superintend the arranging and printing of the written observations of experienced and practical farmers, made after closely observing the effects of their own labors, and judging of cause and effect. Such reflections would be calculated to remove the disparagement, which is with too much jus-

tice, often cast upon books on agriculture, as well as on other branches of business, where they who presume to be instructors, draw upon their imagination, instead of drawing inferences from reason and experience.

The science of agriculture is yet in its infancy, and the practice, consequently, irregular and unproductive. Careful observation, made by practical men, who, by collecting and recording the facts they observe, will enable others to reason upon them, and to establish the general laws connected with the art of raising vegetables. When these laws are collected, and the *modus operandi* of all the phenomena we observe in a course of agriculture, can be arranged under known laws, and comprehended, then we may dignify our profession with the name of the Science of Agriculture.

Every high-minded, honorable agriculturist, should feel himself impelled by an imperious sense of duty, to cast in his mite towards accomplishing this desirable purpose. As to the irregularity in the arrival of our papers, that fault lies at another door; we put them up and mail them regularly; but there is so much extra allowance for carrying the mail, we suppose the conscientious mail contractor thinks himself in duty bound to perform extra duties, and carries them round by Pittsburg by way of a salvo.

Emaus, July 11th, 1834.

To the Editor of the Farmer & Gardener:

Sir:—I enclose $5 (a note of the Northern Liberties of Philadelphia,) your due for vol. 1 of the Farmer & Gardener; but I know that by paying you I have not discharged all my obligations; please, therefore, to receive my thanks for the pleasure and gratification I often have derived from the perusal of the Farmer. To me the most interesting parts are generally the description or history of some farm, the owner of which has been endeavoring to improve it. Can't you give us some such information of Maryland, Delaware, &c. farms. I always thought the character of the American Farmer, in contradistinction to local farmers, should be its universality; and though you have dropt the "American," you have not substituted a local appellation, so that your sphere has been enlarged, not narrowed. by this change. How delightful would it be to receive information through your paper of the state of agriculture in *all* the different states of this Union, prepared by competent persons, dealing not in generalities but in details. Pennsylvania is hardly ever mentioned in your paper—we have no Farmer, but farmers enough:—for the rest I am very partial to the south, and never get tired reading about it.

When you have leisure, please give us an article on the manner the land holders in the south manage their large estates. Imagine to yourself a northerner, surrounded by farms of from 10 to 100 acres, every foot of which is under the personal inspection and cultivation of the owner or tenant, and explain to him the ways and means of administrating half a dozen of farms or plantations of some 1000 acres each. Is it done by tenants, managers, overseers, or how? What is the authority, responsibility and situation of such managers? Are colored persons, freemen, or slaves, employed as such? Would it be possible to cultivate a plantation, in South Carolina for instance, or in Maryland, by the hired labor of free persons of color? if not, for what reason? On what terms can plantations be rented? (In our parts, for instance, there is a large farm let for a rent of 2½ bushels of wheat to the acre, the tenants of which get rich in proportion to the stock they are able to command.) Can the necessary stock of laborers be rented in condition with a plantation? What is the usual term of leases? the price of lands worn out? Can you give us some information about the Ulex Europaeus, or prickley gorse, introduced by President Jefferson, upon his estate near Charlottesville, Virginia? Is it still neglected? Why is it not extensively cultivated in this country? European agriculturists consider it a very valuable plant, and raise it to advantage, for the benefit of their dairies.

The practical benefits of the perusal of the American Farmer in my instance, have been,* excellent pork cured with hickory ashes, in conformity with its receipts; a crop of good hay secured in rather unfavorable weather, *without any anxiety of mind* and useless expenses; and now I am entering upon a ruta baga speculation, but shall not be able to comply exactly with the rules laid down in the Farmer; I must dispense with 2 out of 3 ploughings, as I intend sowing the turnips in rye stubbles, fresh manured with compost manure and ashes. Next year I shall be obliged to lay out a new garden, when I shall have frequent recourse to your pages: can you recommend some few shrubs both useful and ornamental? Morus Multicaulus shall obtain a place. I also intend to lay out a grass garden, that is, different plats for a variety of different grasses, for mowing in summer, a luxury which, it is hoped, my cows will enjoy, and gratefully acknowledge by yielding a profusion of rich milk. I shall be glad to accept of the bait of 50 cents worth of gama grass seed, which you have offered to your subscribers as an inducement to do their duty, if you are convinced what you send me are actually seed. I receive your paper very irregularly, sometimes none for two or three weeks, and then three or four together; returned, in some instances, from Western Pennsylvania, and in bad plight.

Finally, accept my best wishes for the success of the Farmer & Gardener, &c. The Philadelphia note I hope will answer. I should have made the remittance sooner, but spent the time in useless endeavors to get a note of the 'Monster.'

JOHN C. BRICKENSTEIN.

Emaus, Lehigh Co. Pa.

---

* First of all, the keeping up an excitement concerning agriculture, the interest for which otherwise will flag sometimes.

The Coal Trade.—The amount of Coal shipped from the Schuykill, Lehigh and Lackawana Regions, up to the 25th of May, 1833, was upwards of 83,005 tons. Up to the same time the present year, the amount shipped from the above mentioned regions is only 43,947 tons.

THE GARDENER.

[From Nuttall's Introduction to Botany.]

Of the Vascular System of Leaves.

Among fallen leaves, which have been exposed to the action of the atmosphere in a damp place, or which have dropped into a pond, we generally find some in which the cuticle and pulp are completely destroyed; whereas the ribs, or veins, as they are commonly but erroneously termed, being less susceptible of decomposition, remain almost entire, and display the appearance of a beautiful tissue of net-work, more or less complicated. This is the vascular system of the organ, and the leaf in this state is termed a *skeleton leaf*. Leaves are frequently thus prepared by maceration in water, when the cuticle becomes easily separable by gentle rubbing and pressure; and the pulp may then be washed out from between the meshes of the vascular net-work, by rinsing in water: and if the operation be carefully performed, the most minute cords of vessels may be preserved. These preparations enable us to trace more readily than in the natural leaf, the divisions, subdivisions, and various ramifications of the vascular fasciculi; but beyond this they afford us no information, and we must have recourse to the microscope to obtain a satisfactory knowledge of the vascular structure of leaves.

If we commence our investigation with the simplest description of plants, the Lichens, and the Mushroom tribe (*Fungi*,) for instance, we perceive, even by the assistance of the best glasses, scarcely any trace of a vascular structure; the whole plant appearing to be little more than an aggregation of cellules enclosed in a cuticle. This appearance, however, arises in some degree from the transparency of the vessels, preventing them from being distinguished from the cells, and in some degree from the simplicity of their structure; for, as the fluid they convey is not required to be raised to considerable heights, as in the more perfect plants, the conducting tube is consequently more simple. If, however, we take a plant in which the vessels convey a colorless fluid through a colored cellular structure, as, for example, *Marchantia polymorpha*, we find that the surface of the lobes of the leaf-like frond, when examined by an ordinary lens, is reticulated by depressed lines, within each of which a small, nipple-like body rises. When a thin slice of a lobe is placed under the microscope, these lines are discovered to be occasioned by vessels which run immediately under the cuticle, seeming to anastomose with one another. This vascular net-work appears as if formed by a single porous tube, branching and anastomosing so as to form irregular, lozenge-shaped meshes, which are filled with dark-green cellules. The vessel itself is closely connected with the cellules, of which it is probably a mere variety, in no part extensively continuous, and when separated, bears the marks of the cells on its sides. We find nearly the same vascular structure in the Mosses. The leaves of all the mosses are sessile, although many of them are sheathing: and most of them are furnished with a midrib; but their minuteness prevents any certain information being obtained as to the manner in which the leaves receive their vessels from the stem, or whether there be a distinct set of returning vessels: they

appear to be merely a continuation of the vessels of the cortex of the stem.

Proceeding to the next division of plants; those produced from *monocotyledonous seeds*, we observe the costæ or vascular bundles, distinguishable by the naked eye; of different sizes, and running in gently curved or nearly straight lines, either from the base to the apex, or transversely from the midrib to the margin of the leaf. The former is found chiefly in those leaves which have no decided petiole, but spring directly from a bulb or a tuber: the latter in those which are petiolated. We shall examine each kind separately.

A bulb leaf of the White Lily (*Lilium candidum*) may be taken as an example of the general distribution and character of the vascular system in the first description, the *sessile leaves* of monocotyledonous plants. On examining it, we find that the vascular frame-work consists of a distinct midrib, which forms the keel of the leaf, and of less elevated ribs (*costæ*) that extend on each side of the midrib in longitudinal lines,which form a gentle curve, following the shape of the leaf. In the smoother and more succulent leaves of this division, however, these costæ are scarcely visible externally, or at least appear merely as lines on the surface of the leaf: and this is the case, also, as far as regards many of the smaller vascular fasciculi, even in those leaves, which have prominent ribs. If we now make transverse and longitudinal sections of the Lily leaf, we perceive that the costæ are composed of bundles of spiral vessels closely accompanied with corresponding fasciculi of proper vessels, and imbedded in cellular substance: or, that the leaf has a double system of vessels, one for conducting forward the sap, and the other for receiving the proper juice, into which the sap has been changed by the functions of this organ. In the transverse section, these vascular bundles appear like dots upon the divided surface; and, when magnified in transmitted light, display their two-fold nature by difference of transparency; the part of each bundle composed of spiral vessels, being distinguished by a greater degree of opacity, owing to the spiral thread which composes the coats of these vessels being firmer and more opaque than the coats of the proper vessels. The spiral vessels of the leaf, as well as those of the stem, are found generally empty, while the proper or receiving vessels, or vasculoid cavities, are always full. In the majority of leaves the spiral vessels have a closer proximity to the upper than to the under disk; in accordance with their relative position in the stem, the spirals arising from the coat of alburnum, pass towards the surface of the leaf, while the vasculoid cavities, or entire vessels issuing from the bark, incline to its under surface. In leaves, however, which stand vertically, or have no distinction of surface, (as in the *Iris*,) the situation of the spiral vessels is either the reverse, or in the centre of the entire vessels: anatomy thus confirming the idea of the close affinity of such leaves to stems.

It has already been stated that the bundles and threads of vessels, in leaves belonging to this division of the class under consideration, run in longitudinal lines. These are not exactly parallel, but approach, both at the base and the apex of the leaf; and, also, communicate laterally in their course by small threads, given off at irregular intervals; as may be seen in a slice of the Lily leaf cut immediately within the cuticle of the upper disc, and placed beneath the microscope.

The vascular system, then, of the sessile leaves of monocotyledons, consits of fasciculi composed of spiral vessels, accompanied with proper vessels, or vasculoid cavities, arranged in longitudinal lines, and connected by smaller transverse threads; the whole forming a reticulated texture, with irregular rhomboidal meshes. The longitudinal vessels are a continuation of that series which is nearest to the surface, in the root, caudex, or stem, from which the leaves immediately spring; and thus the greater number of the circles of distinct fasciculi, composing the stems of monocotyledons, terminate in leaves until the plant attains its ultimate growth.

There are two natural anatomical subdivisions of the *petiolated* leaves of monocotyledonous plants: namely, 1. Those in which the ribs run *longitudinally*, or in a direction from the base to the apex of the leaf; and, 2. Those in which they run almost *transversely*, or in the direction from the midrib to the margin.

1. In this subdivision we perceive, that, in the Grasses, the vascular bundles resemble very closely, those of the former division; the ribs being in longitudinal, nearly parallel lines, converging towards the point of the leaf, and united at irregular distances by obliquely transvere threads. If we take a stem-leaf of Indian Corn (*Zea Mays*) as a specimen, we perceive the petiole, which is broad, expanded, and sheathing, deriving its origin from the whole circumference of the knot of the articulation which produces it; dilating gradually, as it rises upwards, until its edges become a thin, fimbriated membrane, and again contracting, but less gradually, at its upper part, or where it is united to the expansion of the leaf. The vascular bundles, which can be readily traced by the naked eye, are composed of two distinct kinds of vessels, which appear as dots in a transverse section of the petiole, situated almost close to its external surface. The number of the spiral vessels in each fascile is generally six, three larger and three smaller, symmetrically arranged, as may be seen in a transverse section of one of the bundles viewed under the microscope; and the whole surrounded by a mass of much denser cellules than in the rest of the substance of the petiole. The proper vessels are much smaller and more numerous than the spiral; and appear aggregated into a bundle which occupies a space close to the former, between it and the cuticle, and is bounded by a mass of the same dense cellules as those which surround the spiral vessels; the object of which is, probably, to give such a degree of firmness to the petiole, as will enable it to sustain, in the erect position, the expansion of the leaf. If we now make a vertical section of the petiole, so as to divide one of the fasciculi longitudinally in the thickness of the petiole, we perceive that the larger vessels are regular spirals, furnished with diaphragms at certain distances, the structure of which, however, we shall perhaps never be able to ascertain, owing to the minuteness of the parts; the diameter of these vessels, although comparatively large, not exceeding $\frac{1}{175}$ of an inch. In this section, also, the proper vessels appear membranous and porous; and the cells in immediate contact with both sets of vessels are oblong; whereas those which are between the proper vessels and the cuticle of the outer surface of the leaf, and which form the elevated portion of the costæ, although they are oblong, yet differ both in size and in regularity of structure from those that form the inner substance of the petiole.

Ascending to the expansion of the leaf, which is separated from the petiole by a semitransparent white, condensed, membranous space, from which the expansion of the leaf spreads out like a shoulder on each side, we perceive that the midrib, which is not distinguishable in the lower part of the petiole, becomes very conspicuous on the under disk at this point; forming almost a knob, which passes into a straited ridge, and extends, gradually diminishing in size, to the point of the leaf. From 10 to 12 parallel costæ are visible on each side of the midrib, which, when magnified, appear like white parallel lines, running through the green smooth substance of the expansion, and taking the curve of its shoulders, as if originating in the white, semitransparent space already described. But between these costæ there are several smaller vascular cords, which are scarcely visible on the surface, neither producing elevation nor difference of color; and which can be demonstrated only on the dissection of the leaf. One of the more obvious distinctions, therefore, in the structure of the petiole and the expansion in the leaves of the gramineous tribe of plants is, that, in the petiole, the vessels run in distinct fasciculi, which are all nearly equal in point of size; whereas, in the expansion, the fasciculi differ considerably in size, the larger only being very visible on the surface. In both, there are transverse threads, which appear to connect the longitudinal bundles, and those are conspicuous even to the naked eye in the more succulent leaves, particularly in those which involve the fructification of the Mays when viewed by transmitted light.

In examining a transverse section of a portion of the expansion of the leaf of Indian Corn, containing one of the visible costæ and the interval between it and the next costæ, we immediately perceive the difference of structure in the two kinds of fasciculi. The visible costæ consists of two large spiral vessels on the same line, and a compact bundle of proper vessels on each side of the line of spirals, towards both surfaces of the leaf; while, in the interval, each fasciculus is composed of one * small spiral vessel only, surrounded with a circle of proper vessels, and placed in the heart of the substance of the leaf. But, besides these, there is another kind of fasciculi, two of which are generally observed in each

*I suspect a revision of this observation would present a different result, as to the number of the spiral vessels, and that, instead of being solitary, they are really minor bundles. Such, at least, I find to be the case in the leaves of *Hæmanthus coccineus* and other species. On tearing asunder one of these leaves, a little on the decline, or turning yellow, a number of *apparently* simple spiral vessels equivalent to the longitudinal ribs in quantity are really perceptible; but on completely separating those vessels, they then spontaneously divide into a considerable number of minuter spiral threads.

space between the visible costæ, connected with a peculiar cellular apparatus. These appear to be modifications of the two vascular bundles already noticed; having the same structure as the obscure or invisible fasciculous, and the accompanying compact bundle of proper vessels of the visible rib. In a section obtained by slicing the leaf, we find all these fasciculi united by transverse threads, forming rhomboidal meshes, similar to those which have been already described.

But although the arrangement of the vascular system of the leaf of Indian Corn, just described, may be taken as a specimen of that peculiar to the leaves of all the Grasses; and to those leaves of monocotyledonous plants which are petiolated, and furnished with longitudinal ribs, yet there must necessarily be many modifications of this arrangement.

In the leaves of those monocotyledonous plants, the costæ of which, instead of being longitudinal, run in *transverse parallel lines*, forming acute angles with the midrib, we find that the arrangement of the vascular frame-work resembles that of the Grasses in some circumstances; but differs from it in others. Thus the costæ are parallel to one another, and communicate by small transverse cords of vessels, so as to form meshes which are rhomboidal or square according to the angles at which these transverse cords are given off from the costæ, as in the Grasses. The petioles are, also, in general, sheathing, and many of them are furnished with ligulæ. But, in almost all of them, the peculiar cartilaginous articulation, which divide the petiole from the expansion in the Grasses, is not present; and the petiole assumes a stalk-like aspect before it reaches the expansion.

Taking the leaf of *Canna indica* (or Indian shot) as a specimen of the vascular system in this description of leaves, we perceive, on the under disk, that the midrib is much elevated near the base, and gradually diminishes in size, until it appears little more than a mere line at the apex of the leaf. The more elevated ribs are the primary vascular bundles or fasciculi; and between these are secondary fasciculi, which are less elevated. To the unassisted eye they all appear to go off from the midrib; but viewed by a magnifying lens, and with transmitted light, we perceive that all of them do not proceed directly from the fasciculi of the midrib, but that some of them are branches of the others. At the margin they all insoculate, and form, as it were one fasciculus, which, extending from the base to the apex, is the real living boundary of the leaf.

Examining more closely, and placing a slice of the petiole, cut transversely near the base of the expansion, under the microscope, with a glass of a moderate power, we perceive that the vessels are arranged in distinct fasciculi, which are nearly of the same size in the centre of the section; alternately larger and smaller near the circumference on the convex surface, or that part of the petiole which is towards the under disk of the leaf; and all small on the concave surface. The costæ are continuations of those on the concave surface of the midrib, which are curved outwards in opposite pairs, at different distances between the basis and the apex of the leaf; but the central fasciculi pass on to its point. These vascular bundles are imbedded in a cellular tissue; besides which, the petiole and midrib of this description of leaves contain peculiar pneumatic or air cells, closely resembling those which constitute a great part of the substance of aquatic plants. These internal air cavities have frequently no visible communication with the atmosphere; but in *Sagittaria* they have a connexion with the cortical pores. These may contain gasses as well as air, when unconnected with the atmosphere. In a transverse section of a small part of the expansion of the leaf, we perceive that the vascular cords run nearly in the centre between the two plates of cuticle, imbedded in an opaque, green parenchyma; and that, instead of the pneumatic apparatus of the petiole and midrib, there is a transparent layer of the large cells immediately under the cuticle of the upper disk. These pneumatic cells, however, are not present in the petiole and midrib of all leaves with transverse costæ, belonging to monocotyledonous plants, but the same general arrangement of the vascular cords, and, consequently, the same structure of the frame work, are seen in all of them.

The fasciculi in these, as in the other leaves we have examined, consist of spiral and proper vessels, or vasculoid cavities; differing, however, in the relative position of the spiral, which, here, in each fasciculus, are placed between two bundles of proper vessels.

Examining, by the same power of the microscope, a transverse section of one of the larger fasciculi of the midrib of the leaf of *Canna indica*, we find it to consist of one large, and from 3 to 6 smaller spiral vessels, arranged and relatively connected with the proper vessels, in a manner closely resembling their arrangement in the stems of White Briony.

From these remarks on the vascular system in the leaves of monocotyledonous plants, it is evident that a general character, however variously modified in many instances, pervades the whole. The bundles of vessels are distinct; they run in directions parallel to one another; and the principal fasciculi appear united by smaller transverse cords or bundles, which form meshes of a rhomboidal figure, all nearly of the same size in the same leaf.

Master and Apprentice.—At the conclusion of the war between Great Britain and the United States, Gen. Washington having taken leave of the army, addressed the late Marquis de Lafayette, who was then only 28 years of age, and had been serving in America during the revolution, as follows:—"My young friend, you have served an *apprenticeship to liberty*, now go home and *set up for yourself*." He did set up for himself and became so excellent a *boss* that his workmanship is recognised in all civilized countries on the globe.

A young farmer, having purchased a watch placed it in his fob, and strutting across the floor, says to his wife, "Where shall I drive a nail to hang my watch upon, that it may not be disturbed and broke?" "I do not know a safer place," replied his wife, "than in our *meal barrel*. I'm sure no one will go there to disturb it."—*Western Intel.*

THE BREEDER & MANAGER.

[From the New England Farmer.]

PREPARING FOOD FOR CATTLE.

Beverly, March 1, 1834.

Mr. Fessenden—*Dear Sir*:—I regret as much as your correspondent, H. C., that I could not have given the result of my experiment on the subject of chopping and preparing food for cattle, without the necessity of guessing, knowing as I do the importance of exactness in all these experiments. But as an apology for adopting it in this case, I beg leave to offer the following reasons:—Notwithstanding my conviction of there being a saving in chopping and preparing hay, &c. yet I was not aware of the saving being so great, consequently I did not begin with the least idea of publishing the result. If I had, I should have weighed the quantity of hay consumed per day before commencing chopping; but also the quantity after chopping: but as I did not do this, I of course availed myself of the best evidence in my possession, and even now if practicable, I would for the satisfaction of H. C. weigh and ascertain to an ounce. But to every one who has had experience on this subject, it must be obvious that in shifting cattle from prepared food to unprepared, they will not devour it so readily nor in so great a quantity for 8 or 10 days, consequently I cannot now make an exact statement, but will here state from proof positive that in the latter case I was very nearly correct, and in the other also I think the variation would be but trifling, if any. Both might overrun from 25 to 50 pounds per day, but the proportion would be the same. But I think a calculation can be made nearly as correctly by measuring, as by weighing a mow of hay, estimating (when the hay is well stowed and settled) six hundred square feet to make a ton. This rule, I believe to be very nearly correct, and will as often overrun as fall short.

As it respects the queries of H. C. concerning the potatoes, &c. I will here give an account of the whole process. In a central part of my barn I have a room 18 by 12 feet; this is ceiled with boards, which make it tight and warm. In this room is a pump, and a pen 10 by 10 feet, which is made water tight, the hay being chopped and thrown into a heap, outside this room, early in the morning, a sufficient quantity is put into this pen to feed the whole stock once, to which is added water enough to moisten it, then meal and potatoes, when the whole is mixed with a four tined fork until every part of the hay receives its proportion of the meal and potatoes, then it is given to the cattle in baskets. This process is followed three times each day, viz. morning, noon, and about sunset. The whole of which is performed, excepting giving it to the cattle, by a man whom I hire for 8 dollars per month, not 3 as stated in your paper. This was done with not the most improved straw cutter; now I have one of Willis's improved straw cutters, the same man can perform the whole, including feeding, and the hay is cut shorter and more uniformly, which I think is quite an improvement.

In regard to chopping the potatoes I do not think it is of much consequence, excepting they are more easily and uniformly distributed amongst the hay, which is of some consequence, as when

not chopped the cattle will devour the potatoes first, when I think it is better that the whole should be eaten together. In regard to the cause of the difference in the two modes of feeding, if I should venture to give my opinion, it would not be on any particular part of the process, but on all its parts collectively; the quantity of meal or roots might be varied, for instance, if potatoes were worth more in the market in proportion to their value for feeding cattle than grain, then reduce the potatoes and increase the grain, and so vice versa; but some meal is indispensable with coarse fodder, as it is not to be supposed that neat cattle throw up and masticate a second time but a small part of the food they devour, consequently much of it passes off without imparting more than half of its nutritious substance, especially when dry, hard hay is given without other food or preparation. I think this is more perceptible in milch cows than in any other cattle; hay given in an unprepared state must of course require so great a portion of moisture to prepare it for digestion that but little is left for milk, consequently the hay devoured is often worth more than the milk we get in return; hence the importance of preparing our winter food for our cattle, and bringing it back as nearly as possible into its natural state when growing in our best patsures, by the most simple, easy, and cheapest process.—I now, Mr. Editor, hope that H. C. will accept the very imperfect explanation I have here given, and that he, or some other learned gentleman, will take up the subject and do it ample justice.

Yours, with respect,

AMOS SHELDEN.

[From Dixon's Live Stock Manager.]

Different Breeds, Varieties, and Sorts of Neat Cattle.

The great difference which prevails in most parts, in the nature of neat cattle, arises from various causes, such as their management in breeding, the properties of the pastures on which they are fed, and several other circumstances.

Foreign Breeds or Sorts.—Though much less attention is bestowed upon neat cattle in other countries than in this, there are large and good stocks of this kind in many parts where the pastures are rich and extensive, as in the Ukraine, Podolia, Calmuck Tartary, Denmark, Holland, and Brabant, some of which, are said to be of the largest size of any in Europe of the domesticated sort. In several other of those parts, they are likewise large and good, although but little regard is paid to the form and other useful qualities and properties of them. And among the Tartars, and in Abyssinia, the neat cattle have been observed to be of very extraordinary dimensions, but little or nothing is known of their nature or useful qualities. Foreign cattle of this sort are, however, seldom bred, reared, or fed, with that care and attention which is so beneficially practised in this country.

Breeds, or Sorts of England.—But though the particular circumstances and sorts of domesticated neat-cattle stock in other countries are but very imperfectly known, in this the breeds and varieties of such stock are numerous and important for their excellencies and uses; so that almost every county, or some particular part of it, has its peculiar breed, variety, or kind, which, in many instances, is peculiarly well suited to the nature of the situation of the land and its herbage: while in others there can be no doubt, but that the store-master and grazing farmer would reap much advantage, in the way of profit, by the introduction of some improved breed in the place of that which they possess, as being more adapted, in its size or other properties, to the kind of keep which is afforded, or the nature of the exposure in which it is placed.

Particular Kinds.—The more distinguished and valuable breeds or sorts are those which follow; and which have been correctly described by various writers as to their different points and particulars.

1 The old and new long-horned, or Lancashire, Dishley, and Midland breed and sorts.
2. —— Devonshire middle-horned breed and sorts.
3. The old and new short-horned and polled Yorkshire breed and sorts.
4. —— Welsh breed and sorts.
5. —— Polled Galloway, North-west Lowland, Scotch breed and sorts.
6. —— Suffolk dun breed or sort.
7. —— Highland Kiloe, or Scotch breed and sorts.
8. —— Alderney, or French breed.
9. —— Irish breed or sort.

The breeds of cattle are frequently distinguished by the names of the particular districts, counties, or places where they are the most prevalent or perfect of their kind; and it has been usual to arrange them from the nature of their horns, or other circumstances, somewhat in the following manner:

The Long-horned, or Lancashire, Breed and Kind.—This breed of neat cattle has many valuable qualities, and has undergone much improvement in different respects, so as to render it very useful in the view of the breeder and grazier in different places. It is distinguished from others, as the name implies, by the length of the horns, the thickness and firm texture of the hide, the length and closeness of the hair, the large size of the hoofs, and the course leatheriness of the neck; they are a sort of cattle which are likewise deeper made in their fore quarters, and lighter in their hind quarters, than those of other breeds in general. It is the opinion of some, that in size they are superior to the Sulfolk duns, but inferior to the short and middle horned breeds; they are narrower in their shape, and less in point of actual weight, than the short-horned, though better weighers in proportion to their size, and their beef finer grained, and more mixed and marbled. The cows give considerably less milk, though they afford more cream in proportion to the quantity. They are more varied in color than any of the other breeds, but, be the color whatever it may, they have generally a white streak along their back, which the breeders term *finched*, and mostly a white spot on the inside of the hough. The original colors were red, pied, and brindled, and the finch-backed is the strongest characteristic of the long-horned blood, as the bald face is of that of the Hereford, and the smoky face of the Pembroke. The horns of this sort of cattle are either regularly and horizontally extended to the points, or descend from the cheeks until their points meet, when the animal is sometimes styled *wheel-horned*. Occasionally the long horns assume a fanciful direction upwards, bending irregularly at the extremities; sometimes one horn takes its course up, and the other downwards.

Many contend, that the long-horned cattle are the native and original breed of this Island. "It is not easy, however," says an excellent writer on this sort of stock, "to ascertain this matter; but it is probable the long-horns have been the inhabitants of the open plain country, whilst the wild breed of the country, or perhaps the Welch and Scotch, possessed the woody, wild, and mountainous parts of the Island. However, Lancashire has, it is believed, as much right to be called the mother country for long-horned cattle as Lincolnshire has for the large long-woolled sheep; for though all or most of the cheese dairies in Cheshire, Gloucestershire, and indeed in the greatest part of the midland counties, employ a kind of long-horned cows, yet they are only a shabby mixed breed, much inferior in size and figure to the true Lancashire breed, from whence it is very probable they all originated.

Some, however, think it not improbable that the long-horned breed originated in importations of cattle from the neighboring country of Ireland; and that bulls and cows brought from that island, having been coupled with the ancient breed of the district, produced the sort of cattle known by the name of the Lancashire or long-horned, and which now occupy a large portion of the pasture lands of England. Others entertain the same opinion from the neat cattle of Ireland being called a sort of long-horned. It is not, however, unlikely that this was the native breed of the north-western parts of this country, as the Devon seems to have been of the south-western.

The long-horned cattle are also very general in the counties of Warwick, Leicester, and several other of the midland districts; and this sort of cattle are to be found in greater perfection in the county of Leicester than in the district whence they take their name, which can only be accounted for by great attention in the one instance, and equal neglect in the other. This circumstance has arisen, it is supposed, from the breeders and graziers of Leicestershire buying the best Lancashire bulls and heifers, for many years before the people of that county were well aware of the practice. The former paid more attention to that kind which was of a true mould or form and quicker feeders; while the latter contented themselves with the old-fashioned, large, big-boned kind, which are not only slower feeders, but, when fed, are not such good beef. In short, the little farmers of Lancashire, tempted by the high prices given them for their best stock, had lost their valuable breed before they were sensible of it.

It is stated that this breed is understood by graziers to be in general rather slow feeders, except that particular kind selected and improved by Mr. Bakewell, which are said to require less food than the others, to become remarkably fat in a short space of time, and to lay their fat upon the most valuable parts, but to have little tallow in them when killed; and when used in the dairy, to give but little milk. This kind also differs from the rest of the long-horned cattle, in having

very fine, clean, small bones in their legs, and also thinner hides. They are a middle-sized, round-carcased, good-looking sort of cattle. The account that has been given of the

Improved Sort,—Which originated with the celebrated breeder just noticed, is, that many years before this period there had been selected from Lancashire and Westmoreland a number of the best-shaped cows; and that certain descendants of these were afterwards purchased on the banks of the Trent, and introduced into Warwickshire by Mr. Webster of Canley, in that county, whence originated the celebrated Canley breed. The previous breed of the county were, it is supposed, long-horned, but far inferior to those introduced by Mr. Webster. The above-noted breeder commenced his labors in this improvement with the Canley cows and a bull from Westmoreland, called Twopenny. After breeding in the same line with this stock through a great number of descents, always selecting individuals of the roundest form and smallest bone, he attained the desired success in those respects, and raised that variety which has been since so celebrated for aptitude to acquire external fat. But in the achievement of this end he seems to have in some measure sacrificed the quality of great milking, and rendered the animals less certain in the faculty of procreation. Hence this variety of long-horns is calculated principally for the purpose of the grazier, the original breed retaining its superiority in the dairy.

"There seems to be no opinion formed of any specific difference of quality between the flesh of these and the short-horned cattle; but if we are to judge by analogy from the hides and milk, we may reasonably attribute a more nutritious and substantial quality to the flesh of the former. It has been the custom to deem any presumed specific difference in the quality of the flesh of those animals on which we feed a groundless refinement, and also to attribute any difference to the keep on which they are fattened. Such an idea, however, seems to be erroneous. No keep will equalize the milk and hides, probably not the flesh, of distinct breeds; but we possess an unerring standard by which to determine the former, whilst taste alone decides concerning the latter."

It is noticed, too, that the size of the improved long-horned stock of the midland counties is considerable, as appears by a four-year old steer of Mr. Prinsep's breed, killed some years since, the weight of which was 248 stone, fourteen pounds to the stone, exclusive of 25 stone of fat. The hide weighed 177lbs. It must be kept in mind too, that there is a mellowness and ductility in the thick hides of such well-bred stock which much enhances their value at the leather market.

The reality of this improvement of neat cattle for the grazier's purpose should, it is remarked, be indubitable, considering the vast prices given for them in the midland grazing districts, higher than in any other; even after making considerable allowance for the suspicion of mere nominal prices. Mr. Bakewell also, probably, first set the example of letting bulls and rams at high prices, which has since proved so beneficial to the country before mentioned.

It is further observed, that Mr. Fowler, of Rolwright, in Oxfordshire, was the earliest and most successful follower in this improvement: that after beginning with two Canley Cows, for which he engaged the bull Twopenny, the produce of which was two cows; and then getting another improved bull from the above excellent breeder, he thenceforth bred entirely from his own stock, the success of which was fully shown in the high prices obtained for the cattle at his well-known sale by auction.

The beautiful cattle at first produced were long and fine in the horns, small in the heads, clean in the throats, the backs straight and broad, quarters wide, light in the bellies and offals, mild, gentle, and quiet in their tempers, from early management, and well disposed to fatten on little food, but not great milkers. For beauty, exactness of form in their parts, and disposition to become fat, they are not to be excelled by any. The improvements made in them since have rendered them still stronger and deeper in the carcase, finer boned, finer in the necks, throats, and bosoms, and the backs more straight, wide, and loaded with flesh; the rumps wide, thick, and fleshy, on the points, having occasionally a large portion of fat on them, and near the root of the tails, the flanks feeling thick and fleshy, even when only in store order, and handling every where loose and mellow. It was at one time supposed that this breed could only be produced by the best keep; but the contrary is now known to be the case, and it is believed, that in general, such improved cattle will endure less difficulty from hunger, and go on better with common food, than those of a less valuable kind. It has indeed been proved that they keep themselves in good order with less food than any other sort of the same weight. It is supposed that those of a dark red, deep liver colour, or black, with tan-coloured sides, are the hardiest, and have the best constitutions, being capable of enduring the severest weather, of performing the most work, of living to the greatest age, and of becoming fat on such food as would starve those of colors which shew more weakness.

Craven, in Yorkshire, is famed for a superior variety of this breed of cattle, from which probably the Lancashire cows were originally drawn. Good middling beasts of this sort should be well proportioned in their length, depth, and thickness, wide, especially on the rump, with short legs, and thin horns spreading, the color red or pied, as above, the hide sleek and loose, of a middling thickness, and the weight when fat from nine to twelve score the quarter.

Though this improved breed of long-horned cattle has chiefly been valued for the carcase, which has been the grand object of the breeders, as affording more meat, there are many excellent milkers and dairy cows to be met with among the cattle stock of this sort in different places. The largest, best, and most valuable at present is in the hands of Mr. Prinsep, a most distinguished breeder in the above district; but valuable improved stock of this sort are to be met with in many other places in the same neighborhood. They have a very great disposition to take on flesh and fat, and mostly come to their proof under suitable keep at so early a period as three or four years in the cows and oxen. They probably pay better for the length of keep than any other breed or variety whatever. The young cows are, however, apt to be long dry between having calves. The cattle of this very improved sort produce nearly one third more than others by their hides when killed, and they cut up better and with more profit from their finer and fuller shape in certain parts, which are properties that are well worth the notice of breeders and graziers. Three convenient sizes of these improved cattle prevail in the native district, a large, middle, and smaller sort, each of which have peculiar advantages in certain cases.

These cattle are remarkable for a greater length of carcase in proportion to their height than most others, and being generally variegated in colour, they have a much finer appearance than many other sorts, whose uniformity of colour is tiresome and unpleasant to the eye.

MISCELLANEOUS.

Disease in the feet of Sheep.—As the persons employed on the farm of *Anthony Anderson*, Esq. at Dorchester Bridge, were shearing his sheep, on Tuesday, the shepherd called his attention to a small orifice bust, at the separation of the foot of one of these animals, and told him that it was a disease "called the worm in the foot," which Anderson, though an experienced farmer informs us he had never before seen, or indeed heard of. The Shepherd advised that the wound should be pared down so as to get at the head, and with a strong needle he passed some doubles of thread through it, and extracted what he called the worm. It appears to be a *Hydatid* or bladder like skin containing a fluid not unlike starch, and a small portion of a hairy substance, resembling the short wool on the legs of a sheep. Mr. A. extracted one such worm from each foot all similarly placed at the articulation of the hoofs; and found five or six of his sheep afflicted in like manner; after extracting the cause of the disease, whatever name be applied to it, he filled the cavity with pepper and salt.—*Quebec paper.*

On Wednesday morning last, the point of some sharp instrument resembling that of a needle, was observed, by Mr. Wm. Johnston, of this town, protruding from the breast of one of his children, about 14 months old. He applied a pair of tweezers to it, and, by the exertion of considerable force, pulled out a needle of nearly two inches in length. The child had complained of much pain for three or four weeks past, the result, no doubt, of the movement of the needle from the throat or stomach towards the point at which it was discovered—having, in all probability, been swallowed a few weeks previous.—*Hagerstown Torch Light.*

CONTENTS OF THIS NUMBER.

A Ram, imported by J. Barney, Esq.—Capt. Matthews' potatoes—Skinless Oats—Report of the Maryland Horticultural Society—Packing Grapes—Scarcity of Wives—Calcareous Manure—On the management of Farms; letter from John C. Brickenstein—The Coal Trade—Of the vascular system of Leaves—Anecdotes: Master and Apprentice; A young farmer and his watch—Preparing food for Cattle—Dickson's description of the different breeds, &c. of Neat Cattle—Diseases of the feet of sheep—Case of a needle passing through the stomach of a child—Prices Current—Advertisements, &c.

BALTIMORE PRODUCE MARKET.

☞ *These Prices are carefully corrected every* MONDAY.

	PER.	FROM	TO
BRANDY, Apple,	gallon.	$0 27	$—
Peach,	"	75	—
BEANS, white field,	bushel.	2 00	—
BEEF, on the hoof,	100lbs.	5 50	6 00
CORN, yellow,	bushel.	66	67
White,	"	66	67
COTTON, Virginia,	pound.	10	13
North Carolina,	"	11	13
Upland,	"	13	15
FEATHERS,	pound.	—	37
FLAXSEED,	bushel.	1 00	1 25
FLOUR—Best white wheat family,	barrel.	6 50	7 00
Do. do. baker's	"	5 75	6 25
Do. do. Superfine,	"	5 00	5 25
Super Howard street,	"	5 12	5 25
" " wagon price,	"	5 00	—
City Mills, extra,	"	5 00	5 75
Do.	"	5 12	5 25
Susquehanna,	"	5 25	—
Rye,	"	3 37	—
GRASS SEEDS, red Clover,	bushel.	—	4 50
Timothy (herds of the north)	"	3 50	—
Orchard,	"	3 00	—
Tall meadow Oat,	"	2 50	—
Herds, or red top,	"	1 25	—
HAY, in bulk,	ton.	14 00	15 00
Pressed,	100 lbs	—	90
HEMP, country, dew rotted,	pound.	6	7
" water rotted,	"	7	8
LIME,	bushel.	30	35
MUSTARD SEED, Foreign,	"	4 50	5 00
Domestic,	"	5 00	—
OATS,	"	38	40
OIL, linseed,	gallon.	—	90
Castor	"	1 70	1 80
PEAS, red eye,	bushel.	—	—
Black eye,	"	—	1 00
Lady,	"	—	—
PLASTER PARIS, in the stone,	ton.	3 00	—
Ground,	barrel.	1 37	—
PALMA CHRISTA BEAN,	bushel.	2 00	—
RAGS,	pound.	3	4
RYE,	bushel.	71	—
TOBACCO, crop, common,	100 lbs	3 50	5 00
" brown and red,	"	4 50	6 00
" fine red,	"	6 00	8 00
" wrappery, suitable for segars,	"	6 00	12 00
" yellow and red,	"	8 00	12 00
" yellow,	"	13 00	17 00
" fine yellow,	"	15 00	22 00
Seconds, as in quality,	"	4 00	5 00
" ground leaf,	"	5 00	9 00
Virginia,	"	4 00	—
Rappahannock,	"	3 00	4 00
Kentucky,	"	4 00	8 00
WHEAT, white,	bushel.	1 20	—
Red,	"	1 08	1 12
WHISKEY, 1st pf. in bbls.	gallon.	28	29
" in hhds.	"	26	—
" wagon price,	"	—	—
WAGON FREIGHTS, to Pittsburgh,	100 lbs	1 00	—
To Wheeling,	"	1 25	—
		washed.	*unwash*
WOOL, Prime & Saxon Fleeces,	pound.	50 *to* 60	24 *to* 26
Full Merino,	"	40 50	20 24
Three fourths Merino,	"	33 40	22 24
One half do.	"	28 33	21 22
Common & one fourth Meri.	"	25 28	18 20
Pulled,	"	28 31	18 20

GRAY OR GAZE HOUNDS.

LAST September I received from the President of the United States, for the breeding farm of this Establishment, a pair of these very beautiful and powerful animals, which had been sent out to him from Holland, by the American Consul there, and in vol. 15, of the American Farmer, page 233, I published the letter accompanying the very acceptable present. I have now the satisfaction to offer for sale four (females) puppies—their issue. They will be ready for delivery in all the month of July. Price $20 each.

I. I. HITCHCOCK,
American Farmer Establishment.

BALTIMORE PROVISION MARKET.

	PER.	FROM.	TO.
APPLES,	peck.	$0 25	$0 37
BACON, hams,	pound.	11	—
Shoulders,	"	—	9
Middlings,	"	—	9
BUTTER, printed, in lbs. & half lbs.	"	25	—
Roll,	"	11	18
CIDER,	barrel.	—	—
CALVES, three to six weeks old	each.	4 00	8 00
COWS, new milch,	"	15 00	27 00
Dry,	"	9 00	12 00
CORN MEAL, for family use,	100lbs.	1 50	1 56
CHOP RYE,	"	1 56	1 62
EGGS,	dozen.	9	—
FISH, Shad, trimmed		—	—
" salted,	barrel.	6 37	—
Herrings, salted, No. 1 & 2,	"	3 87	4 00
Mackerel, No. 1, 2 & 3,	"	3 50	6 25
Cod, salted,	cwt.	—	2 75
LAMBS, alive,	each.	1 25	2 00
Slaughtered,	quart'r	31	50
LARD,	pound.	8	—
ONIONS,	bushel.	—	87
POULTRY, Fowls,	dozen.	—	—
Chickens,	"	2 25	2 75
Ducks,	"	—	3 25
POTATOES, Irish,	bushel.	—	62
New,	peck.	12	25
VEAL, fore quarters,	pound.	6	—
Hind do.	"	8	—

ADVERTISEMENTS.

SKINLESS OATS.

A VERY small quantity of this celebrated new article has been obtained, at an enormous expense, and will be disposed of at this Establishment, at 50 cents per ounce. But as my stock of Gama Grass Seed is, for the present, exhausted, I shall substitute this article as a return, to all subscribers to the Farmer & Gardener, on payment of their subscription. (See terms.)

I. I. HITCHCOCK,
July 29. Amer. Far. Estab.

☞ See an account of this article on the first page of this number.

A SUPERIOR JACK FOR SALE.

FOR SALE, by a farmer in this state, a splendid Maltese Jack, *first rate in every respect.* He is *nearly* 14½ hands high!—Eight years old last spring; quick in performance, and *efficient* to an unusual degree, 31 mares out of 34 in one instance, and in another 8 out of 9 mares belonging to one farmer proving with foal by him in 1833. He is probably in every respect one of the best Jacks ever imported into the United States. Price $1000. Address

I. I. HITCHCOCK,
jy 29 Amer. Farmer Establishment.

WESTPHALIA GEESE.

A FEW pairs of these unrivalled Geese for sale at this establishment. They were hatched in April last, and are *now* considerably heavier than old geese of the common breed.

These geese are of the purest white, with bills, legs and eyes of a bright scarlet color. Geese of this breed have attained the enormous weight of 20 pounds, and those now offered for sale are for their age equal to any both in beauty and size that we have ever seen—Price $5, a pair. They can be sent safely in coops or crates any distance. july 29

TURNIP SPINACH & CABBAGE SEED.

A FULL supply of these seeds of several of the best varieties for summer and fall sowing, now on hand and for sale by

I. I. HITCHCOCK,
july 1 Amer. Farm. Estab.

NEW LEICESTER BUCKS.

I AM authorised to sell several fine Bucks of the Leicester or improved Bakewell breed of Sheep, and one do of the Cotswold breed; at from $75 to $100 each. Who will have one or more? I. I. HITCHCOCK,
July 15. American Farmer Establishment.

SUBSCRIBERS can have their volumes of the AMERICAN FARMER neatly half bound and lettered at this establishment, at 75 cents a volume. Most of the Nos. can also be had at 10 cents each, to complete files.

LARGE WHITE FLAT TURNIP SEED, &c.
JUST RECEIVED,

550 LBS. large White Flat, and Red Top TURNIP SEED, (growth 1834,) raised at the Clairmount Nurseries, by R. S. Senr. from the finest and best shaped roots.—The perfect success of Turnip crops produced from this seed for the last eight years, and the general satisfaction expressed by those who have tried it, added to the increased annual demand for the article from Eastern Seedsmen and others, is sufficient proof of its superior quality.

It is recommended "to sow the seed about the 10th August, on new cleared land, or well tilled clay or loam—quantity of seed required to crop one acre of ground ¾ to 1¼ lb.; if the latter quantity is sown it will be necessary to cross the plants with a harrow, after which follow with hoes, leaving the plants about 12 inches apart." For further information relative to preparation of seed, cultivation, &c. see R. Sinclair's remarks on Turnip crops in the American Farmer, volume 8, page 138. Price $1 per lb. and a liberal discount to those who purchase to sell again.

Also, early round Dutch Turnip Seed, Norfolk or large white, white Tankard, yellow Bullock, Ruta Baga, and Dale's new Hybrid Turnip Seeds, at 75 cts. to $2 per lb.

Pickling Cucumber Seed of best sorts, Endive, Brussels Sprouts. Lettuce of various sorts, among which are brown Dutch; large white Cabbage and Cilicia—the three most esteemed sorts; Hybrid or Yellow Turnip Radish, and blue curled Greens, a superior sort for fall sowing, raised from selected plants.

500 lbs. prime early Cabbage Seed, (growth 1834) raised near London, consisting principally of early and large York, early George, Bullock's heart, Battersea and Sugar loaf. The vegetative qualities of those seeds have been fully tested in hot beds prepared for the purpose, and to insure certain success and prevent disappointment to those who purchase, plants of each of the above have been transplanted, and are now flourishing, which will enable a true description to be given of their quality, appearance, &c. before the 1st of September, which is the usual time of sowing.

R. SINCLAIR, Jr. at
SINCLAIR & MOORE'S
July 22. Maryland Agricultural Repository.

IMPROVED DURHAM SHORT HORN BULLS—CHEAP.

I AM requested by a gentleman of high character as an agriculturist, in a neighboring state, to offer for sale several Bulls of his, of which he has yet given me no other description than the following, viz: "My stock is of the Short Horn Durham breed, and derived from the best and purest sources, imported recently." He offers Bulls two years old, one year old, and of the last spring, at the following prices respectively: $200, $150, $100.—If, as I presume from the character of the gentleman, his stock is of a high order, and if he can, as I also presume, furnish pedigrees of pure blood, then is the present a rare opportunity to procure fine Bulls, at more moderate prices than I have hitherto been able to offer them. I will ascertain further particulars in regard to this stock, and be able shortly to speak definitely as to its character. In the mean time, should any gentleman want one or more of these Bulls, he may rely entirely on receiving through this Establishment no other than such as shall be represented and proved too.

Address I. I. HITCHCOCK,
July 15. American Farmer Establishment.

DALE'S NEW HYBRID TURNIP.

THE subscriber now offers to the agriculturists a new and decidedly superior variety of Turnip, originated by R. Dale, esq. an intelligent farmer, near Edinburgh, Scotland; it was obtained by unwearied attention in crossing the Swedish or Ruta Baga Turnip; it is superior in size and flavor to the Ruta Baga; is closer and finer in the texture; it is rapid in its growth as the White Flat Turnip. In fact, it includes the great desideratum in the selection of a proper variety of the Turnip which is to obtain the greatest possible weight at a given expense of manure. This variety seems to be more adapted to this end than any other sort introduced; it will be found superior in quality to any of the White Field Turnips, and keeps longer than any of them, and very near as long as the Ruta Baga—the color is yellow—the shape oblong. Price 25 cents per ounce. The season for sowing is at hand.

I. I. HITCHCOCK
10 June Amer. Farm. Estab.

Printed by SANDS & NEILSON, South East corner of Calvert and Market-streets.